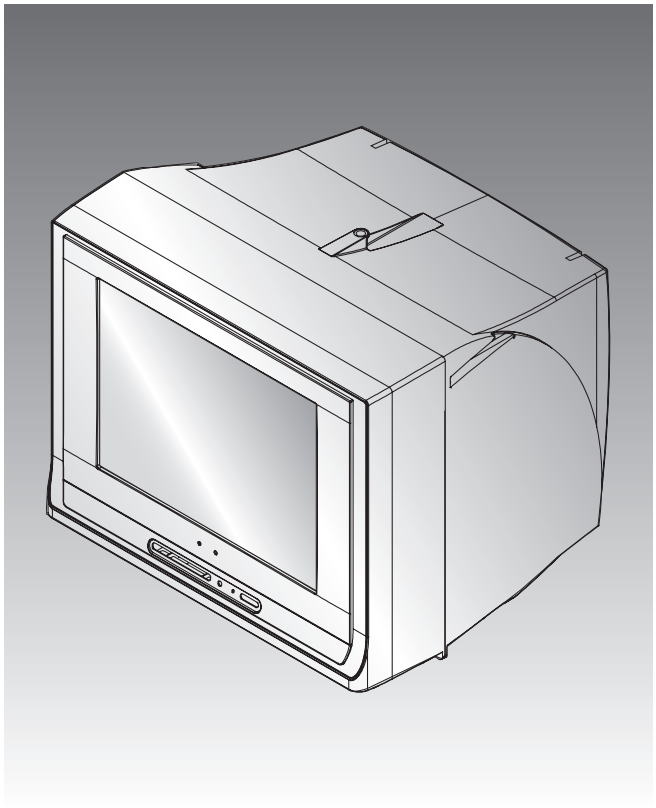
SAMSUNG

COLOR TELEVISION RECEIVER

Chassis : KS9A(N)
Model : CL21M16MJZTXAP

SERVICE Manual

COLOR TELEVISION RECEIVER



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Printed in Korea
AA82-01691A

2. Alignment and Adjustments

2-1 General Alignment Instructions

1. Usually, a color TV-VCR needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.

2. Observe the picture for good black and white details. There should be objectionable color shading; if color shading is present, demagnetize, perform purity and convergence adjustments described below.

3. Use the specified test equipment or its equivalent.

4. Correct impedance matching is essential.

5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.

6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.

7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.

8. To protect against shock hazard, use an isolation transformer.

2-2 Automatic Degaussing

A degaussing coil is mounted around the picture tube, so that external degaussing after moving the TV should be unnecessary. But the receiver must be properly degaussed upon installation.

The degaussing coil operates for about 1 second after the power is switched ON. If the set is moved or turned in a different direction, the power should be OFF for at least 10 minutes.

If the chassis or parts of the cabinet become magnetized, poor color purity will result. If this happens, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube and the sides and front of the receiver. Slowly withdraw the coil to a distance of about 6 feet before turning power OFF.

If color shading persists, perform the following Color purity and Convergence adjustments.

2-3 High Voltage Check

CAUTION : There is no high voltage adjustment on this chassis. The B+ power supply should be +135 volts (with full color- bar input and normal picture level).

1. Connect a digital voltmeter to the second anode of the picture tube.

2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).

3. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 30 KV under any conditions.

2-4 FOCUS Adjustment

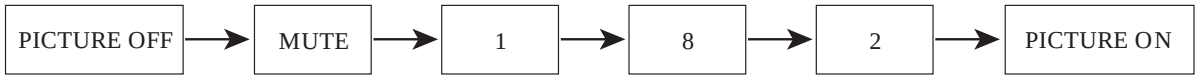
1. Iput a black and white signal.
2. Adjust the tuning control for the clearest picture.
3. Adjust the FOCUS control for well defined scanning lines in the center area of the screen.

2-5 Factory Adjustment

2-5-1 Service Mode

1. To enter the "Service Mode", Press the remote-control keys in this sequence :

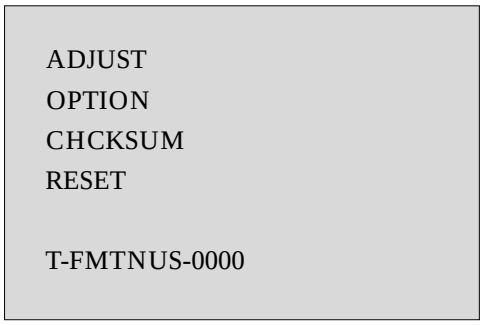
   - If you do not have Factory remote-control



   - If you have Factory remote-control

2-5-2 Factoy Mode OSD

2-5-2 ADJUST



T-FMTNUS FACTORY

No	Deflection	Remark	INITIAL	MIN	MAX	ADJUST
1	HS	Adjust	37	0	63	30
2	VA	Adjust	34	0	63	22
3	VSL	Adjust	30	0	63	23
4	VS	FIX	31	0	63	25
5	AGC	Adjust	33	0	63	33
6	CDL	FIX	9	0	15	9
7	SCT	Adjust	10	0	23	10
8	SBT	Adjust	7	0	23	7
9	BLR	Adjust	28	0	63	28
10	BLB	Adjust	43	0	63	43
11	RG	Adjust	30	0	63	30
12	GG	FIX	32	0	63	32
13	BG	Adjust	46	0	63	46
14	SC	FIX	29	0	63	33
15	STT	FIX	5	0	7	5
16	AKB	FIX	0	0	1	0
17	NDL	FIX	1	0	15	1
18	NSR	FIX	5	0	23	10
19	VOL	FIX	10	0	63	10
20	MVOL	FIX	7	0	50	7
21	RPO0	FIX	1	0	1	1
22	RPO1	FIX	1	0	1	1
23	CAP	FIX	12	0	15	12
24	FMWS	FIX	0	0	1	0
25	AGCS	FIX	1	0	3	1
26	OMD	FIX	15	0	63	15
27	SCL	FIX	3	0	3	3
28	PWL	FIX	13	0	15	15
29	MUS	FIX	1	0	1	1
30	SCBT	FIX	40	0	63	40
31	SSP	FIX	5	0	20	5
32	DNSR	FIX	17	0	23	10
33	DSBT	FIX	0	0	23	0
34	DCDL	FIX	6	0	16	9
35	DBLR	FIX	32	0	63	32
36	DBLB	FIX	32	0	63	32
37	DSK	FIX	0	0	1	0

Option

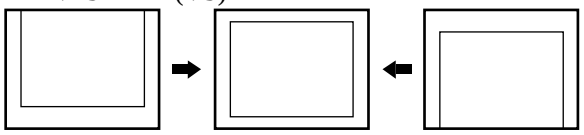
No	Item	Initial	21" FLAT	Remark
1	Video Mute	Off	Off	Video Mute time between the Channel changes
2	Audio	STEREO	STEREO	Audio MONO/STEREO Option
3	2ND SIF	EXTERNAL	EXTERNAL	SIF Option
4	Auto Power	Off	Off	Turns on automatically when the Master Power is turned ON
5	Audio Mute	On	On	Mutes the Audio when there is no source signal
6	Start Language	English	English	Preset OSD (On-Screen Display) language at time of purchase
7	Hotel Mode	Off	Off	
8	Blue Screen	On	On	Blue Screen when there is no source signal
9	V-Chip	Off	Off	
10	AV Option	AV1/2/DVD	AV1/2	Back Jack Option
11	AFN	Off	Off	

White Balance

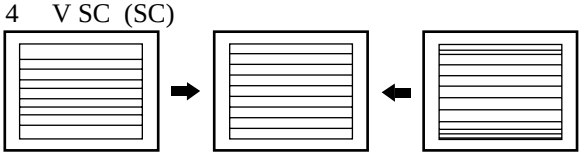
Item	21" FLAT	Remark
Hight Light	275/265/45FL	
Low Light	275/265/1.5FL	

2-6 Screen Change (I2C Bus Geometric Adjustment)

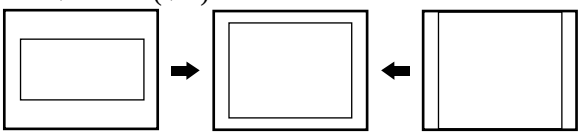
1 V SHIFT (VS)



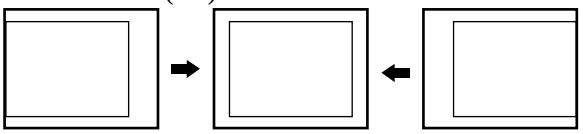
4 V SC (SC)



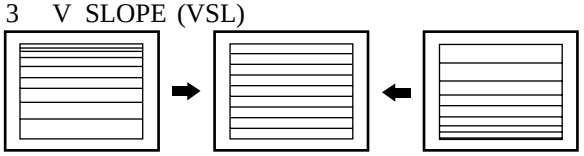
2 V AMP (VA)



5 H SHIFT (HS)



3 V SLOPE (VSL)



MEMO

Yon can search for the updated part code through ITSELF web site.
URL:http://itself.sec.samsung.co.kr

4. Electrical Parts List

4-1 CL21M16MJZTXAP

Level	Loc.No.	Code No.	Description;Specification	Remark
			ASSY COVER FRONT	
1	M0001	AA90-05114E	ASSY COVER FRONT;CL21M16MJZXXAP	S.N.A
..2	T0081	6003-001268	SCREW-TAPTITE;TH,+,B,M4,L12,ZPC(YEL),SWR	S.N.A
..2	CCM1	AA60-10050R	SCREW-MACHINE;-,SWRCH18A,M5,L31.5,HH,+,W	S.N.A
..2	T0081	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	S.N.A
..2	T0607	AA61-40113A	STOPPER-PCB;501H,HIPS,-,-,HB,NTR,-	S.N.A
..2	T0057	AA64-70123A	BADGE-BRAND;NEW,AL,L50,FLAT,SILVER,SAMSU	S.N.A
..2	CWFCR	AA65-00011C	CLAMPER CORE-WIRE;ALL MODEL,NYLON 66,V2,	S.N.A
..2	CWFCL	AA65-30105A	CLAMPER CORE-WIRE;ALL MODEL,NYLON 66,V2,	S.N.A
..2	T0382	BP61-00495A	HOLDER-CARE;PJT,ACRYL-FOAM,T0.25,W30.0mm	S.N.A
..2	M0003	AA96-02004E	ASSY COVER P-FRONT;21M16,SAMEX,HIPS,HB,	
...3	T0081	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	S.N.A
...3	T0081	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	S.N.A
...3	CIS7	AA61-60003J	SPRING ETC-CS;-,SUS304,-,-,OD6,N7,OD6,-,	S.N.A
...3	T0023	AA64-03823A	KNOB-POWER;29M16,ABS,HB,G3676,SVM3012	S.N.A
...3	T0082	AA64-03838A	WINDOW-LED;15,17M16,ACRYL,CLR	S.N.A
...3	T0022	AA64-03957A	KNOB CONTROL;21M16,SAMEX,ABS,HB,G3676,SV	S.N.A
...3	T0003	AA64-03956A	CABINET FRONT;21M16,SAMEX,HIPS,HB,G4309,	S.N.A
...3	T0069	AA60-00091G	SPACER-FELT;-,FELT,200X10,-,-,BLK,T0.5,-	S.N.A
...3	T0382	BP61-00509A	HOLDER-CARE;PJT,ACRYL-FOAM,T0.25,W20.0mm	S.N.A
..2	CWSPK	AA65-30018A	CLAMPER CORE-WIRE;DONG-A,NYLON-66,-,-,-,	S.N.A
..2	CW/HS	AA65-30018A	CLAMPER CORE-WIRE;DONG-A,NYLON-66,-,-,-,	S.N.A
..2	T0578	AA64-03660Q	INLAY AV;21M16,KS9A,PS,T0.3,SHEET,BLK,SI	S.N.A
..2	T0175	AA96-01614A	ASSY SPEAKER P;8OHM,3001-001190,AA39-205	S.N.A
...3	T0082	3001-001190	SPEAKER;7W,8OHM,87DB,150HZ	
...3	T0245	AA39-20505M	LEAD CONNECTOR-ASSY;,4P,350,700MM,YSH025	
..2	T0610	AA96-02311A	ASSY PCB P-A/V SIDE;CL21M16,KS9A,MONO	S.N.A
...3		0202-001366	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb,	S.N.A
...3	JE601	3722-000143	JACK-PHONE;1P(VER),3.4PI,AG,BLK,NO	
...3	JR01	3722-001282	JACK-PIN;2P(3P),3.2mm,AU,BLK,-	
...3	T0254	AA39-20112E	LEAD-CONNECTOR,ASSY;-,YBNH025-09,67096-0	
...3	R075	2001-001077	R-CARBON(S);150OHM,5%,1/2W,AA,TP,2.4X6.4	
...3	R075	2001-001077	R-CARBON(S);150OHM,5%,1/2W,AA,TP,2.4X6.4	
...3	C701	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
...3	C701	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
...3	00VER	AA41-00414A	PCB-SIDE A/V;CT21D8,FR-1,1L,A,1.6T,245x2	S.N.A
			ASSY COVER REAR	
1	M0002	AA90-05118A	ASSY COVER REAR;21M16,KS9A,HIPS,HB,G4309	S.N.A
..2	T0015	AA64-03842A	CABINET BACK;21M16,SAMEX,HIPS,HB,G4309	
..2	INLAYB	AA64-03873F	INLAY-BACK;21M16,20,PS,T0.3,SHEET,BLK,KS	S.N.A
..2	T0069	AA60-00091J	SPACER-FELT;-,FELT,330X10,-,-,BLK,T0.5,-	S.N.A
..2	T0214	AA65-30008A	CLAMPER CORE-CORD;-,PE,HB,-,BLK,-	S.N.A
..2	T0081	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	S.N.A
..2	T0081	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	S.N.A
..2	H/T	AA61-00356B	HOLDER-TUNER,F/JACK;501F,ABS,-,-,-,BLK,H	S.N.A
..2	INL/CA	AA64-02052A	INLAY;CAUTION,73X93.W/O-FCC,LGRY-TXT,BLK	S.N.A
			ASSY CPT	
1	T0521	AA91-08260A	ASSY CPT;NAFTA,A51QDX993X(M),0MG,1.75MH,	S.N.A
⚠ ..2	T0063	AA03-00314A	CRT COLOR;A51QDX993X(M),0MG,1.75MH,18MH,	
..2	T0079	AA27-00002A	MAGNET CONVERGENCE;JH291-SC-OB,29.1MM,-,	
..2	T0089	AA27-00256A	COIL DEGAUSSING;,21IHCH,10%,35TS,4.5OHM,	
..2	T0078	AA27-00324A	DEFLECTION YOKE;,DIF-2192AA(A),S/T,A51QD	
..2	T0271	AA98-70014D	ASSY TBC WIRE(P);-,22 Q,NTSC,PAL,1P,TVI	S.N.A
..2	SPACER	AA63-60028A	SPACER-DY;-,NEOPRENE,-,-,-,BLK,-,-,V0 W1	S.N.A
..2	T0527	AA65-00009B	CLAMPER CORE-D,COIL;21A8,NYLON 66,V0,-,-	S.N.A
			ASSY CHASSIS	
1	M0017	AA91-08024A	ASSY CHASSIS;CL21M16,KS9A,LATIN,MONO,W/O	S.N.A
..2	M0014	AA94-14366A	ASSY PCB MAIN;CL21M16,KS9B,LATIN,MONO,W/	
...3		0202-001366	SOLDER-WIRE FLUX;-,RS60S,D1.2,63Sn/37Pb,	S.N.A
...3	T0083	0402-001599	DIODE-RECTIFIER;DGP30L,1500,3A,DO-201AD(	
...3	T0090	0502-001255	TR-POWER;ST2001HI(028Y),NPN,55000mW,-,ST	
⚠ ...3	PC801S	0604-001032	PHOTO-COUPLER;TR,170-260%,300mW,DIP-4,ST	
...3	IC112	1103-001209	IC-EEPROM;24C04,512x8,DIP,8P,10.16x7.11m	
...3	T0900	1404-001045	THERMISTOR-NTC;4.7ohm,15%,2900K,35.0mW,T	
...3	C598	2201-000446	C-CERAMIC,DISC;3.3NF,20%,400V,Y5U,BK,15X	
...3	C701	2401-000534	C-AL;150uF,20%,400V,GP,ST,25x30,10	
...3	X201	2801-004033	CRYSTAL-UNIT;12MHZ,30PPM,28-AAM,30PF,30O	
⚠ ...3	SF101S	2904-001221	FILTER-SAW AV,45.75MHz,SIP5K,ST,14.2dB,M	
...3	SWN01	3404-000295	SWITCH-TACT;12VDC,50mA,160gf,8.4X22.7,SP	
⚠ ...3	FP801S	3601-000281	FUSE-CARTRIDGE;250V,4A,TIME-LAG,GLASS,5.	
⚠ ...3	V999S	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-	
...3	T0119	AA09-00455A	IC MICOM;TDA9377PS/N2/AI,T-FMTNUS-1000,6	S.N.A
⚠ ...3	T801S	AA26-00043B	TRANS SWITCHING;,CS21S5T,80~280V,PM2,PL3	
...3	T0616	AA26-00201A	TRANS FBT;FCA173B,KS1A-1,3.8mH,FERRITE,1	
⚠ ...3	T401	AA26-50001B	TRANS-HORIZ.DRIVE;-,-,-,7.1mH,-,-,102uH,	
...3	T0296	AA27-30003L	COIL LINEARITY;-,73uH,DR12x15,0.55mm,-,B	
⚠ ...3	LR402S	AA27-00296A	COIL CHOKE;220UH,CPTTV,220UH,10%,3A,DR14	
⚠ ...3	LX801S	AA29-00015A	FILTER LINE NOISE;WS32W8,28-20MH 1.5A,+-	
...3	D0254	AA32-00014A	MODULE REMOCON;346VF2,38KHZ,940MM,MESH,V	
...3	T0245	AA39-20620C	LEAD CONNECTOR-ASSY;,9P,YBNH250-09,S,500	
...3	CIS3	AA40-00016A	TUNER-F/S;TDQ-6T/13F2S,NTSC,181CH,45.75M	
...3	CN401	AA60-40012D	PIN-GT,ASSY;4P,T1.6,6-12.5-14MM,NYLON66	S.N.A
...3	LD201	AA96-01710A	ASSY MISC P-LED GUIDE;LTL-307JGTH128R	S.N.A
⚠ ...3	IC801S	AA96-00242D	ASSY H/S;SCREWAA62-30186B,5Q0765RTH,OIL	S.N.A
....4	CIS	0205-001154	OIL-SILICON;G746,-,-	S.N.A
....4	T0086	1203-002916	IC-PWM CONTROLLER;KA5Q0765RTH-YDTU,TO-22	
....4	T0081	6003-000333	SCREW-TAPTITE;RH,+,2S,M3,L10,ZPC(YEL),SW	S.N.A
....4	CIS	AA62-30186B	HEAT SINK-ES;-,-,-,SILVER,171J + COVER-H	S.N.A
...3	IC301	AA96-00244M	ASSY H/S;SCREWAA64-00046A,LA78040N,OIL S	S.N.A
....4	CIS	0205-001154	OIL-SILICON;G746,-,-	S.N.A
....4	T0088	1204-002121	IC-VERTICAL DEF.;LA78040N,TO220,7P,-,PLA	
....4	T0081	6003-000335	SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	S.N.A
....4	CIS	AA62-00046A	HEAT SINK-PS;-,-,T1.0,-,D1(DREAM) 60X25X	S.N.A
⚠ ...3	IC802	AA96-00245A	ASSY H/S;-,-,AA62-00055A,KA7632,-	S.N.A
....4	IC062	1203-001939	IC-MULTI REG.;7632,SIP,10P,-,PLASTIC,3.3	
....4	T0081	6003-000334	SCREW-TAPTITE;RH,+,2S,M3,L6,ZPC(YEL),SWR	S.N.A
....4		AA62-00055A	HEAT SINK-PS;-,-,T1.0,-,35*15*25,D1,-,-	S.N.A
...3	IC501	AA96-50311A	ASSY-H/S;-,VIDEO,AA62-30175D,TDA6107Q,-	S.N.A
....4	T0074	1201-001159	IC-VIDEO AMP;6107,ZSIP,9P,-,SINGLE,-,PLA	
....4	T0081	6003-000334	SCREW-TAPTITE;RH,+,2S,M3,L6,ZPC(YEL),SWR	S.N.A
....4		AA62-30175D	HEAT SINK-PS;-,SECC,T1.0,-,33X15X30 FT-2	S.N.A
⚠ ...3	T0066	AA96-20109C	ASSY POWER CORD;-,CP2/NO(4.0),H/C300,KKP	S.N.A
....4	T0077	AA39-10006X	CBF POWER CORD;-,KKP419C,KLCE-2F,2.286MT	
....4		AA61-20284A	HOLDER;P-CORD,PP,-,-,-,BLK,VO,KE-002	S.N.A
...3	T0090	0502-001007	TR-POWER;KSC2073-H2,NPN,25W,TO-220,ST,6	
...3	CN906	3711-002643	CONNECTOR-HEADER;BOX,4P,1R,2.5mm,STRAIGH	
...3	T0083	0402-001603	DIODE-RECTIFIER;MUR480E,800V,4A,DO-201AD	
...3	T0083	0402-001604	DIODE-RECTIFIER;MUR420,200V,4A,DO-201AD,	
...3	JA701	3722-002140	JACK-PIN;2P(9P),Ni,YEL/WHT,ANGLE	
...3	IC603	AA96-00244N	ASSY H/S;SCREW,AA62-00046A,AN7522N,OIL S	S.N.A
....4	H/S	0205-001154	OIL-SILICON;G746,-,-	S.N.A
....4	T0124	1201-002050	IC-POWER AMP;AN7522N,SIP,12P,29.6x7.7mm,	
....4	T0081	6003-000335	SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR	S.N.A
....4	H/S	AA62-00046A	HEAT SINK-PS;-,-,T1.0,-,D1(DREAM) 60X25X	S.N.A
...3	FBT	AA65-30018A	CLAMPER CORE-WIRE;DONG-A,NYLON-66,-,-,-,	S.N.A

Level	Loc.No.	Code No.	Description;Specification	Remark
...3	CN906	3711-002648	CONNECTOR-HEADER;BOX,9P,1R,2.5mm,STRAIGH	
...3	A/AUTO	AA97-15239A	ASSY AUTO-MAIN;CL21M16,KS9A,LATIN,MONO,W	S.N.A
⚠ 4	CISS	0401-000005	DIODE-SWITCHING;1N4148,75V,150MA,DO-35,T	
⚠ 4	CISS	0401-000005	DIODE-SWITCHING;1N4148,75V,150MA,DO-35,T	
⚠ 4	CISS	0401-000005	DIODE-SWITCHING;1N4148,75V,150MA,DO-35,T	
⚠ 4	CISS	0401-000005	DIODE-SWITCHING;1N4148,75V,150MA,DO-35,T	
⚠ 4	CISS	0401-000006	DIODE-SWITCHING;BAV21,250V,200MA,DO-35,T	
⚠ 4	CISS	0401-000006	DIODE-SWITCHING;BAV21,250V,200MA,DO-35,T	
....4	T0083	0402-000493	DIODE-RECTIFIER;1R5GU41,400V,1.5A,DO-15L	
....4	T0083	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
....4	T0083	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
....4	T0083	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41,TP	
....4	T0083	0402-000254	DIODE-RECTIFIER;RGP10J,600V,1A,DO-41,TP	
....4	T0083	0402-000534	DIODE-RECTIFIER;RG10V,400V,1.2A,DO-201,T	
....4	T0083	0402-000540	DIODE-RECTIFIER;RU20A,600V,1.5A,-,TP	
....4	T0083	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1A,TS-1	
....4	T0083	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1A,TS-1	
....4	T0083	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1A,TS-1	
....4	T0083	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1A,TS-1	
....4	T0083	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1A,TS-1	
....4	T0083	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1A,TS-1	
....4	T0083	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1A,TS-1	
....4	T0083	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,-,TP	
....4	T0083	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,-,TP	
....4	T0083	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,-,TP	
....4	DZ016	0403-000508	DIODE-ZENER;MTZJ5.6B,5.45-5.73V,500MW,DO	
....4	DZ016	0403-000508	DIODE-ZENER;MTZJ5.6B,5.45-5.73V,500MW,DO	
....4	DZ016	0403-000508	DIODE-ZENER;MTZJ5.6B,5.45-5.73V,500MW,DO	
....4	DZ016	0403-000508	DIODE-ZENER;MTZJ5.6B,5.45-5.73V,500MW,DO	
....4	DZ016	0403-000508	DIODE-ZENER;MTZJ5.6B,5.45-5.73V,500MW,DO	
....4	DZ016	0403-000508	DIODE-ZENER;MTZJ5.6B,5.45-5.73V,500MW,DO	
....4	DZ016	0403-000508	DIODE-ZENER;MTZJ5.6B,5.45-5.73V,500MW,DO	
....4	DZ016	0403-000699	DIODE-ZENER;TZP27B,27-30.8V,1000MW,DO-41	
....4	DZ016	0403-000700	DIODE-ZENER;TZP33A,5%,1000MW,DO-41,TP	
....4	DZ016	0403-000700	DIODE-ZENER;TZP33A,5%,1000MW,DO-41,TP	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-000720	DIODE-ZENER;MTZJ9.1B,8.57-9.01V,500MW,DO	
....4	DZ016	0403-001140	DIODE-ZENER;RD10ESAB-T4,9.7-10.2V,400MW,	
....4	DZ016	0403-001221	DIODE-ZENER;UZ39BSB,35.36-37.19V,500MW,D	
....4	DZ016	0403-001318	DIODE-ZENER;MTZJ4.3B,4.17-4.43V,500MW,DO	
....4	DZ016	0403-001327	DIODE-ZENER;MTZJ18A,16.22-17.06V,500MW,D	
....4	DZ016	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.2V,500MW,DO	
....4	DZ016	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.2V,500MW,DO	
....4	DZ016	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.2V,500MW,DO	
....4	DZ016	0403-001373	DIODE-ZENER;MTZJ5.1A,4.85-5.03V,500MW,D0	
....4	DZ016	0403-001373	DIODE-ZENER;MTZJ5.1A,4.85-5.03V,500MW,D0	
....4	T0156	0501-000283	TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T	
....4	T0156	0501-000283	TR-SMALL SIGNAL;KSA539,PNP,400mW,TO-92,T	
....4	T0156	0501-000369	TR-SMALL SIGNAL;KSC2331-Y,NPN,1000mW,TO-	
....4	T0156	0501-000369	TR-SMALL SIGNAL;KSC2331-Y,NPN,1000mW,TO-	
....4	T0156	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
....4	T0156	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
....4	T0156	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400mW,TO-92,T	
....4	T0123	1203-002951	IC-VOLTAGE REGULATOR;SL431A,TO-92,3P,-,P	
....4	R125	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
....4	R125	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
....4	R125	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
....4	R125	2001-000010	R-CARBON;68KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R075	2001-000016	R-CARBON(S);1OHM,5%,1/2W,AA,TP,2.4X6.4MM	
....4	R075	2001-000019	R-CARBON(S);10OHM,5%,1/2W,AA,TP,2.4X6.4M	
....4	R075	2001-000022	R-CARBON(S);33OHM,5%,1/2W,AA,TP,2.4X6.4M	
....4	R075	2001-000037	R-CARBON(S);330OHM,5%,1/2W,AA,TP,2.4X6.4	
....4	R075	2001-000109	R-CARBON(S);470OHM,5%,1/2W,AA,TP,2.4X6.4	

Level	Loc.No.	Code No.	Description;Specification	Remark
....4	R125	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000325	R-CARBON;120OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000397	R-CARBON;180KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000490	R-CARBON;200OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000689	R-CARBON;390KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000739	R-CARBON;4.7MOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000739	R-CARBON;4.7MOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000793	R-CARBON;47OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000857	R-CARBON;560OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000890	R-CARBON;6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000890	R-CARBON;6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000924	R-CARBON;680OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000924	R-CARBON;680OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R075	2001-001062	R-CARBON(S);10MOHM,5%,1/2W,AA,TP,2.4X6.4	
....4	R075	2001-001078	R-CARBON(S);15KOHM,5%,1/2W,AA,TP,2.4X6.4	
....4	R075	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4M	
....4	R075	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4M	
....4	R075	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4M	
....4	R075	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4M	
....4	R075	2001-001093	R-CARBON(S);2.2KOHM,5%,1/2W,AA,TP,2.4X6.	
....4	R075	2001-001108	R-CARBON(S);22KOHM,5%,1/2W,AA,TP,2.4X6.4	
....4	R075	2001-001114	R-CARBON(S);270OHM,5%,1/2W,AA,TP,2.4X6.4	
....4	R075	2001-001116	R-CARBON(S);27OHM,5%,1/2W,AA,TP,2.4X6.4M	
....4	R075	2001-001131	R-CARBON(S);33KOHM,5%,1/2W,AA,TP,2.4X6.4	
....4	R075	2001-001154	R-CARBON(S);5.1KOHM,5%,1/2W,AA,TP,2.4X6.	
....4	R075	2001-001170	R-CARBON(S);6.8OHM,5%,1/2W,AA,TP,2.4X6.4	

Level	Loc.No.	Code No.	Description;Specification	Remark
....4	R075	2001-001170	R-CARBON(S);6.8OHM,5%,1/2W,AA,TP,2.4X6.4	
....4	R075	2001-001197	R-CARBON(S);910OHM,5%,1/2W,AB,TP,2.4X6.4	
....4	R0521	2002-001008	R-COMPOSITION;1.8Kohm,10%,1/2W,AA,TP,3.7	
....4	R0521	2002-001008	R-COMPOSITION;1.8Kohm,10%,1/2W,AA,TP,3.7	
....4	R0521	2002-001008	R-COMPOSITION;1.8Kohm,10%,1/2W,AA,TP,3.7	
....4	C806	2301-001435	C-FILM,LEAD-PPF;1.5nF,5%,1.2kV,TP,15x8x1	
....4	R0521	2002-001012	R-COMPOSITION;8.2Mohm,5%,1/2W,AA,TP,3.7x	
....4	R402	2003-002178	R-METAL OXIDE(S) 1Kohm,5%,2W,AG,TP,3.9X1	
....4	R803	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
....4	R804	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
....4	R407	2003-001040	R-METAL OXIDE(S);47Kohm,5%,2W,AF,TP,3.9x	
....4	R834	2003-001040	R-METAL OXIDE(S);47Kohm,5%,2W,AF,TP,3.9x	
....4	R835	2003-001040	R-METAL OXIDE(S);47Kohm,5%,2W,AF,TP,3.9x	
....4	R315	2003-002009	R-METAL OXIDE(S);390ohm,5%,2W,AF,TP,3.9x	
....4	R316	2003-002009	R-METAL OXIDE(S);390ohm,5%,2W,AF,TP,3.9x	
....4	R827	2003-002009	R-METAL OXIDE(S);390ohm,5%,2W,AF,TP,3.9x	
....4	R403	2003-002151	R-METAL OXIDE;18KOHM,5%,2W,AG,TP,6X16MM	
....4	R024	2004-001371	R-METAL(S);1.5Kohm,1%,1/2W,AA,TP,2.4x6.4	
....4	R024	2004-001377	R-METAL(S);120Kohm,1%,1/2W,AA,TP,2.4x6.4	
....4	R024	2004-001402	R-METAL(S);6.8Kohm,1%,1/2W,AA,TP,2.4x6.4	
....4	R024	2004-001407	R-METAL(S);82.5Kohm,1%,1/2W,AA,TP,2.4x6.	
....4	R219	2004-001914	R-METAL;39Kohm,2%,1/8W,AA,TP,1.8x3.5mm	
....4	R024	2004-001983	R-METAL(S);2.49Kohm,1%,1/2W,AA,TP,2.4x6.	
....4	R304	2008-000252	R-FUSIBLE(S);0.47ohm,10%,1/2W,AF,TP,2.5x	
....4	R305	2008-000252	R-FUSIBLE(S);0.47ohm,10%,1/2W,AF,TP,2.5x	
....4	R505	2008-001138	R-FUSIBLE;2.4OHM,5%,1W,AF,TP,3.9X10MM	
....4	R420	2008-000264	R-FUSIBLE(S);1ohm,5%,1W,AF,TP,3.9x10mm	
....4	R421	2008-000266	R-FUSIBLE(S);1ohm,5%,2W,AF,TP,3.9x10mm	
....4	R825	2008-000266	R-FUSIBLE(S);1ohm,5%,2W,AF,TP,3.9x10mm	
....4	R303	2008-000290	R-FUSIBLE(S);2.4ohm,5%,2W,AF,TP,3.9x10mm	
....4	R824	2008-001033	R-FUSIBLE(S);10ohm,5%,2W,AF,TP,3.9x10mm	
....4	R302	2008-001076	R-FUSIBLE(S);1.8ohm,5%,2W,AF,TP,3.9x10mm	
....4	C598	2201-000259	C-CERAMIC,DISC;0.18NF,10%,500V,Y5P,TP,5.	
....4	C598	2201-000375	C-CERAMIC,DISC;0.22NF,5%,50V,RH,TP,12.5X	
....4	C598	2201-000573	C-CERAMIC,DISC;0.047NF,5%,50V,C0G,TP,5X3	
....4	C598	2201-000573	C-CERAMIC,DISC;0.047NF,5%,50V,C0G,TP,5X3	
....4	C598	2201-000599	C-CERAMIC,DISC;0.56NF,10%,500V,Y5P,TP,5.	
....4	C598	2201-000639	C-CERAMIC,DISC;680PF,10%,2KV,Y5P,-,5MM,T	
....4	C598	2201-000723	C-CERAMIC,DISC;4.7NF,20%,3KV,Y5U,TP,16X5	
....4	C598	2201-000991	C-CERAMIC,DISC;0.56NF,10%,2KV,Y5P,TP,7.5	
....4	C598	2201-002028	C-CERAMIC,DISC;0.47NF,10%,2KV,Y5P,TP,7.5	
....4	C689	2202-000127	C-CERAMIC,MLC-AXIAL;10nF,+80-20%,25V,Y5V	
....4	C689	2202-000127	C-CERAMIC,MLC-AXIAL;10nF,+80-20%,25V,Y5V	
....4	C689	2202-000127	C-CERAMIC,MLC-AXIAL;10nF,+80-20%,25V,Y5V	
....4	C689	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
....4	C689	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
....4	C689	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50V,Y5P,TP,3	
....4	C689	2202-000825	C-CERAMIC,MLC-AXIAL;680pF,10%,50V,Y5P,TP	
....4	C689	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
....4	C2560	2301-000004	C-FILM,LEAD-PEF;2.2nF,5%,100V,TP,5.5X10X	
....4	C2560	2301-000004	C-FILM,LEAD-PEF;2.2nF,5%,100V,TP,5.5X10X	
....4	C2560	2301-000013	C-FILM,LEAD-PEF;4.7nF,5%,100V,TP,10.5x12	
....4	C2560	2301-000016	C-FILM,LEAD-PEF;22nF,5%,100V,TP,7.2x4.5x	
....4	C2560	2301-000016	C-FILM,LEAD-PEF;22nF,5%,100V,TP,7.2x4.5x	
....4	C2560	2301-000016	C-FILM,LEAD-PEF;22nF,5%,100V,TP,7.2x4.5x	
....4	C2560	2301-000148	C-FILM,LEAD-PEF;10nF,5%,100V,TP,7x3.2x7m	
....4	C2560	2301-000148	C-FILM,LEAD-PEF;10nF,5%,100V,TP,7x3.2x7m	
....4	C2560	2301-000148	C-FILM,LEAD-PEF;10nF,5%,100V,TP,7x3.2x7m	
....4	C2560	2301-000213	C-FILM,LEAD-PEF;220nF,5%,250V,TP,21.5x11	
....4	C2560	2301-000204	C-FILM,LEAD-PEF;2.7nF,5%,50V,TP,7.4x3.9x	
....4	C309	2301-000253	C-FILM,PEF;39NF,5%,100V,TP,7.5X4.5X12.5M	
....4	C420	2301-001065	C-FILM,LEAD-PPF;47nF,5%,630V,TP,19x15.5x	
....4	C225	2301-001664	C-FILM,MPE-PPF;100nF,3%,50V,TP,20x16x8.5	
....4	C2560	2305-000149	C-FILM,LEAD-PEF;100nF,5%,100V,TP,12x12.5	
....4	C2560	2305-000285	C-FILM,LEAD-PEF;220NF,5%,100V,TP,10.5X5.	
....4	C2560	2305-000289	C-FILM,LEAD-PEF;220nF,5%,63V,TP,-,5mm	
....4	C2560	2305-000289	C-FILM,LEAD-PEF;220nF,5%,63V,TP,-,5mm	
....4	C2560	2305-000289	C-FILM,LEAD-PEF;220nF,5%,63V,TP,-,5mm	
....4	C2560	2305-000289	C-FILM,LEAD-PEF;220nF,5%,63V,TP,-,5mm	
⚠ 4	CR405S	2305-000382	C-FILM,MPEF;4.7NF,5%,400V,TP,-,5MM.	
....4	C2560	2305-000412	C-FILM,LEAD-PEF;470nF,5%,63V,TP,-,5mm	
....4	C2560	2305-000412	C-FILM,LEAD-PEF;470nF,5%,63V,TP,-,5mm	
....4	C2560	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
....4	C2560	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
....4	C2560	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
....4	C2560	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
....4	C2560	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
....4	C2560	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
....4	C2560	2305-000665	C-FILM,LEAD-PEF;100nF,5%,63V,TP,7.5x4.0x	
....4	C701	2401-000015	C-AL;33uF,20%,50V,WT,-,6.3x11mm,2.5	
....4	C701	2401-000262	C-AL;100uF,20%,160V,HR,TP,16x25,7.5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000302	C-AL;100uF,20%,25V,GP,TP,6.3x11,5	
....4	C701	2401-000365	C-AL;100uF,20%,50V,WT,TP,10x12.5mm,	
....4	C701	2401-000365	C-AL;100uF,20%,50V,WT,TP,10x12.5mm,	
....4	C701	2401-000430	C-AL;10uF,20%,250V,GP,TP,10x16mm,5m	
....4	C701	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
....4	C701	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
....4	C701	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
....4	C701	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
....4	C701	2401-000493	C-AL;10uF,20%,50V,LZ,TP,5x11mm,5mm	
....4	C701	2401-000603	C-AL;1UF,20%,50V,GP,TP,5X11,2	
....4	C701	2401-000625	C-AL;2.2uF,20%,160V,GP,TP,6.3x11,5	
....4	C701	2401-000927	C-AL;22uF,20%,250V,GP,TP,13x20,5	
....4	C701	2401-000962	C-AL;22uF,20%,50V,GP,TP,5x11,5	
....4	C701	2401-001232	C-AL;4.7uF,20%,250V,GP,TP,10x12.5,5	
....4	C701	2401-001838	C-AL;470uF,20%,25V,WT,TP,10x16,5	
....4	C701	2401-001914	C-AL;1uF,20%,50V,BP,TP,5x11,5	
....4	C701	2401-001914	C-AL;1uF,20%,50V,BP,TP,5x11,5	
....4	C701	2401-001998	C-AL;1000uF,20%,25V,GP,TP,10x20,5mm	
....4	C701	2401-001998	C-AL;1000uF,20%,25V,GP,TP,10x20,5mm	
....4	C701	2401-002288	C-AL;470uF,20%,25V,WT,TP,10x20,5	
....4	C701	2401-002290	C-AL;47uF,20%,160V,GP,TP,13x20,5	
....4	C701	2401-002594	C-AL;220uF,20%,16V,GP,TP,8x11.5,5	
....4	C701	2401-002619	C-AL;47uF,20%,25V,GP,TP,5x11,5	
....4	C701	2401-002619	C-AL;47uF,20%,25V,GP,TP,5x11,5	
....4	C701	2401-003028	C-AL;100uF,20%,25V,WT,TP,6.3x11,5	
....4	C701	2401-003028	C-AL;100uF,20%,25V,WT,TP,6.3x11,5	
....4	C701	2401-003139	C-AL;1000uF,20%,25V,WT,TP,10*20,5mm	
....4	L103	2701-000114	INDUCTOR-AXIAL;10UH,10%,2534	
....4	L202	2701-000114	INDUCTOR-AXIAL;10UH,10%,2534	
....4	L204	2701-000114	INDUCTOR-AXIAL;10UH,10%,2534	
....4	L801	2701-000114	INDUCTOR-AXIAL;10UH,10%,2534	
....4	R101	2701-000114	INDUCTOR-AXIAL;10UH,10%,2534	
....4	R102	2701-000114	INDUCTOR-AXIAL;10UH,10%,2534	
....4	L203	2701-000127	INDUCTOR-AXIAL;15UH,10%,2534	
....4	L301	2701-000142	INDUCTOR-AXIAL;1UH,10%,2534	
....4	L302	2701-000142	INDUCTOR-AXIAL;1UH,10%,2534	
....4	L404	2701-000142	INDUCTOR-AXIAL;1UH,10%,2534	
....4	L230	2701-000159	INDUCTOR-AXIAL;22UH,10%,4298	
....4	L205	2701-000177	INDUCTOR-AXIAL;33UH,10%,2534	
....4	L206	2701-000177	INDUCTOR-AXIAL;33UH,10%,2534	
....4	L307	2701-000178	INDUCTOR-AXIAL;33UH,10%,3070	
....4	L804	2701-001030	INDUCTOR-AXIAL;43UH,10%,4514	
....4	F101	2901-000297	FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,-	
....4	Z201	2903-000129	FILTER-CERAMIC;BR,4.5MHz,-,-,-,TP,-	
....4	L2514	3301-000287	BEAD-AXIAL;,3.5x1.0x6.0mm,3000mA,TP,,,50	
....4	L2514	3301-001223	BEAD-AXIAL;62ohm,3.5x0.8x5mm,,TP,,,	
....4	L2514	3301-001223	BEAD-AXIAL;62ohm,3.5x0.8x5mm,,TP,,,	
....4	L2514	3301-001223	BEAD-AXIAL;62ohm,3.5x0.8x5mm,,TP,,,	
....4	L2514	3301-001223	BEAD-AXIAL;62ohm,3.5x0.8x5mm,,TP,,,	
....4	L2514	3301-001223	BEAD-AXIAL;62ohm,3.5x0.8x5mm,,TP,,,	
....4	L2514	3301-001223	BEAD-AXIAL;62ohm,3.5x0.8x5mm,,TP,,,	
....4	SW201	3404-000244	SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP	
....4	SW202	3404-000244	SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP	
....4	SW203	3404-000244	SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP	
....4	SW204	3404-000244	SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP	
....4	SW205	3404-000244	SWITCH-TACT;15V,20mA,90-170gf,7.5x7mm,SP	
....4	F801A	3602-000114	FUSE-HOLDER;-,-,30mohm	
....4	F801B	3602-000114	FUSE-HOLDER;-,-,30mohm	
....4	EL301	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	S.N.A
....4	EL302	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	S.N.A
....4	EL402	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	S.N.A

Level	Loc.No.	Code No.	Description;Specification	Remark
....4	EL801	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	S.N.A
....4	EL802	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	S.N.A
....4	EL601	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	S.N.A
....4	EL602	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H	S.N.A
....4	EY401	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY402	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY403	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY404	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY405	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY410	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY411	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY414	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY416	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY417	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY419	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY501	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY807	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY808	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY819	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY827	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY830	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY833	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY422	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY423	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY420	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY424	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY425	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY809	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY810	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY406	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY407	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY408	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY409	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY412	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY413	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY801	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY802	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY803	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY804	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY805	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY806	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY813	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY814	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY815	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY816	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY817	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY818	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY820	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY821	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY822	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY701	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY702	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY811	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	EY812	6042-000002	EYELET;ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	S.N.A
....4	FT401	AA37-00001A	CONNECTOR-FBT FIX PIN;JM-3500,CPTTV,0.36	
....4	FT402	AA37-00001A	CONNECTOR-FBT FIX PIN;JM-3500,CPTTV,0.36	
....4	GT501	AA60-40014A	PIN-GT,ASSY;AUTO	S.N.A
....4	GT801	AA60-40014A	PIN-GT,ASSY;AUTO	S.N.A
....4	GT802	AA60-40014A	PIN-GT,ASSY;AUTO	S.N.A
....4	GT803	AA60-40014A	PIN-GT,ASSY;AUTO	S.N.A
....4	GT804	AA60-40014A	PIN-GT,ASSY;AUTO	S.N.A
....4	GT805	AA60-40014A	PIN-GT,ASSY;AUTO	S.N.A
....4	00VER	AA41-01026A	PCB MAIN;CT-21M16,FR-1,A,245 X 245,KS9A,	S.N.A
⚠ 4	FD801S	2008-001163	R-PICO FUSIBLE;10mohm,20%,1W,AA,TP,2.3x6	
⚠ 4	VX802S	1405-000152	VARISTOR;560V,2500A,14x8.5mm,TP	
....4	L201	2701-000163	INDUCTOR-AXIAL;27uH,10%,3070	
....4	L304	2701-001034	INDUCTOR-AXIAL;22uH,10%,4514	
....4	L303	2701-001034	INDUCTOR-AXIAL;22uH,10%,4514	
....4	L810	2701-000002	INDUCTOR-AXIAL;100UH,10%,4298	
....4	R125	2001-000773	R-CARBON;470KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	DZ016	0403-001316	DIODE-ZENER;MTZJ3.0A,2.85-3.07V,500MW,DO	
....4	R075	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA,TP,2.4X6.	
....4	R075	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA,TP,2.4X6.	
....4	R075	2001-001050	R-CARBON(S);1.5KOHM,5%,1/2W,AA,TP,2.4X6.	
....4	C2560	2301-000301	C-FILM,LEAD-PEF;6.8nF,5%,50V,TP,6.5X5.5X	
....4	R125	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	C689	2202-000231	C-CERAMIC,MLC-AXIAL;0.33NF,10%,50V,Y5P,T	
....4	C701	2401-000649	C-AL;2.2uF,20%,50V,BP,TP,5x11,5	
....4	C2560	2301-000383	C-FILM,LEAD-PEF;10nF,5%,50V,TP,6x7x3.2mm	
....4	R075	2001-000117	R-CARBON(S);68ohm,5%,1/2W,AA,TP,2.4x6.4m	
....4	R125	2001-000258	R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	R125	2001-000258	R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
....4	F101	2901-000299	FILTER-EMI ON BOARD;-,6A,UL/CSA,-,9x7.5,	
⚠ ...3	CR403S	2301-001401	C-FILM,PPF;27nF,5%,630V,TP,19x11x17mm,7.	
⚠ ...3	CR406S	2306-000171	C-FILM,LEAD-PPF;270nF,5%,250V,TP,21.5x12	
⚠ ...3	RL801S	3501-001111	RELAY-POWER;12VDC,250MW,5000MA,1FORMA,15	
...3	P803T	1404-001264	THERMISTOR-PTC;4.5OHM,+30/-20%,220V,290V	
...3	CR401S	2303-000282	C-FILM,LEAD-PPF;6nF,5%,1.6KV,TP,29*23*8.	
...3	H/CLAM	AA65-30111A	CLAMPER CORE-WIRE;ALL MODEL,NYLON,V0,-,W	S.N.A

ASSY P/MATERIAL

1	A/PACK	AA92-08851A	ASSY P/MATERIAL;21M16	S.N.A
..2	PE-BAG	AA69-01209A	BAG;SHEET,25-27,W54,L60,FOAM,OEM.	S.N.A
..2	T0214	AA60-40006A	PIN-STAPLE;AUTO,33X17.8X2.4,H18,33X17.8X	S.N.A

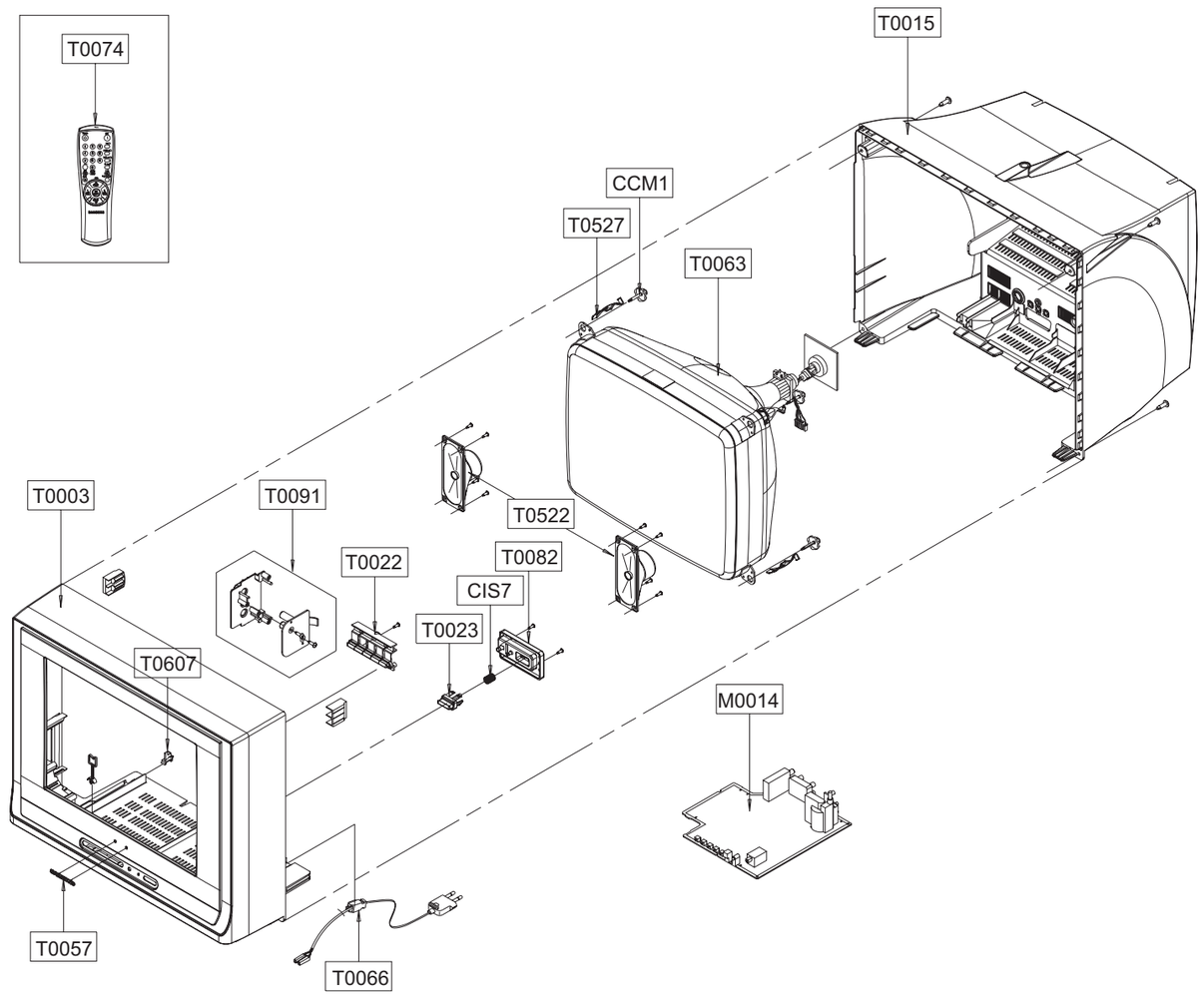
ASSY ACCESSORY

1	M0045	AA92-09330A	ASSY ACCESSORY;KS9A,21,XAP	S.N.A
..2	T0074	AA59-00316C	REMOCON;TM75,ET,30,G6148A,NT,EX	
..2	T0251	3721-000136	PLUG-CONVERSION;2P,4.0mm,N,NI	S.N.A
..2	T0080	AA26-90001F	TRANS MATCHING;-,300ohm/75ohm,NTSC,40-89	
..2	T0075	AA42-00004A	ANT ROD;CXD1334,VHF,4SDODIPOLE850MMBRN	
..2	T0152	AA68-00987A	CARD WARRANTY;-,-,W/P100,-,-,-,-,-,A4,1P	S.N.A
..2	BAG-PE	AA69-01195A	BAG PE;CL29A6W8X,HDPET0.012,93/4X151/2	S.N.A
..2	M/SAFE	AA68-03242A	MANUAL-SAFETY GUIDE;NT/PAL ALL MODEL,E/F	S.N.A
..2	T0511	AA68-03443A	MANUAL USERS;CL21M16MJ,ENG,LATIN,W/P120g	S.N.A
..2	T0511	AA68-03444A	MANUAL USERS;CL21M16MJ,SPA,LATIN,W/P120g	S.N.A

3. Exploded View & Parts List

3-1 CL21M16MJZTXAP

Yon can search for the updated part code through ITSELF web site.
URL:http://itself.sec.samsung.co.kr



Loc No.	Code No.	Description;Specification	Q'ty	S.N.A
T0015	AA64-03842A	CABINET BACK;21M16,SAMEX,HIPS,HB,G4309	1	
CCM1	AA60-10050R	SCREW-MACHINE;-,SWRCH18A,M5,L31.5,HH,+,W	4	S.N.A
T0607	AA61-40113A	STOPPER-PCB;501H,HIPS,-,-,HB,NTR,-	1	S.N.A
CIS7	AA61-60003J	SPRING ETC-CS;-,SUS304,-,-,OD6,N7,OD6,-,	1	S.N.A
T0023	AA64-03823A	KNOB-POWER;29M16,ABS,HB,G3676,SVM3012	1	S.N.A
T0082	AA64-03838A	WINDOW-LED;15,17M16,PC,CLR	1	S.N.A
T0003	AA64-03956A	CABINET FRONT;21M16,SAMEX,HIPS,HB,G4309,	1	S.N.A
T0022	AA64-03957A	KNOB CONTROL;21M16,SAMEX,ABS,HB,G3676,SV	1	S.N.A
T0057	AA64-70123A	BADGE-BRAND;NEW,AL,L50,FLAT,SILVER,SAMSU	1	S.N.A
T0522	AA96-01614A	ASSY SPEAKER P;8OHM,3001-001190,AA39-205	1	S.N.A
T0066	AA96-20109C	ASSY POWER CORD;-,CP2/NO(4.0),H/C300,KKP	1	S.N.A
T0063	AA03-00314A	CRT COLOR;A51QDX993X(M),0MG,1.75MH,18MH,	1	
T0527	AA65-00009B	CLAMPER CORE-D,COIL;21A8,NYLON 66,V0,-,-	4	S.N.A
M0014	AA94-14366A	ASSY PCB MAIN;CL21M16,KS9B,LATIN,MONO,W/	1	
T0091	AA96-02311A	ASSY PCB P-A/V SIDE;CL21M16,KS9A,MONO	1	S.N.A
T0074	AA59-00316C	REMOCON;TM75,ET,30,G6148A,NT,EX	1	

6. Schematic Diagrams

6-1 MICOM

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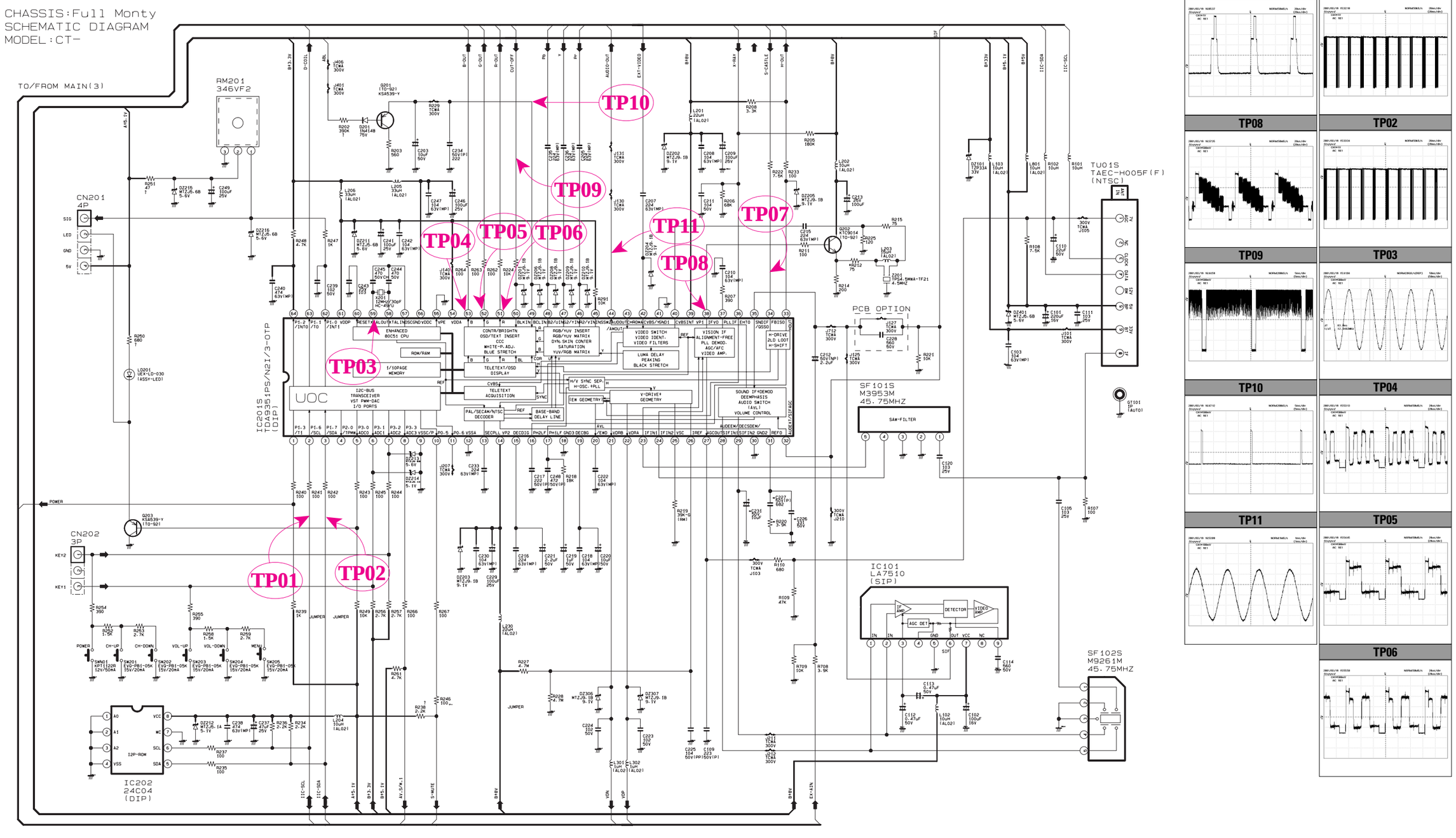

6-2 POWER

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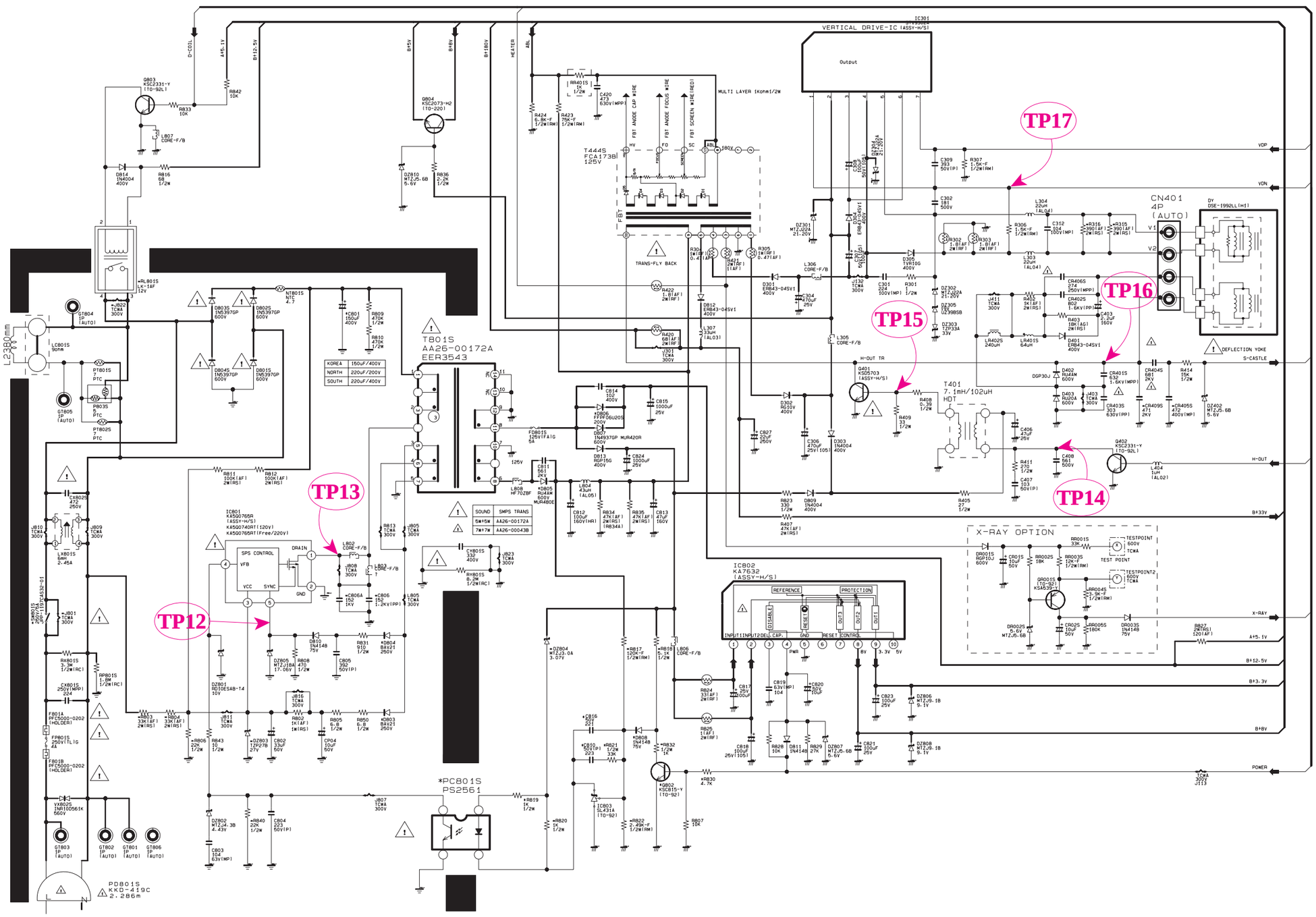

6-3 AUDIO / SIDE AV

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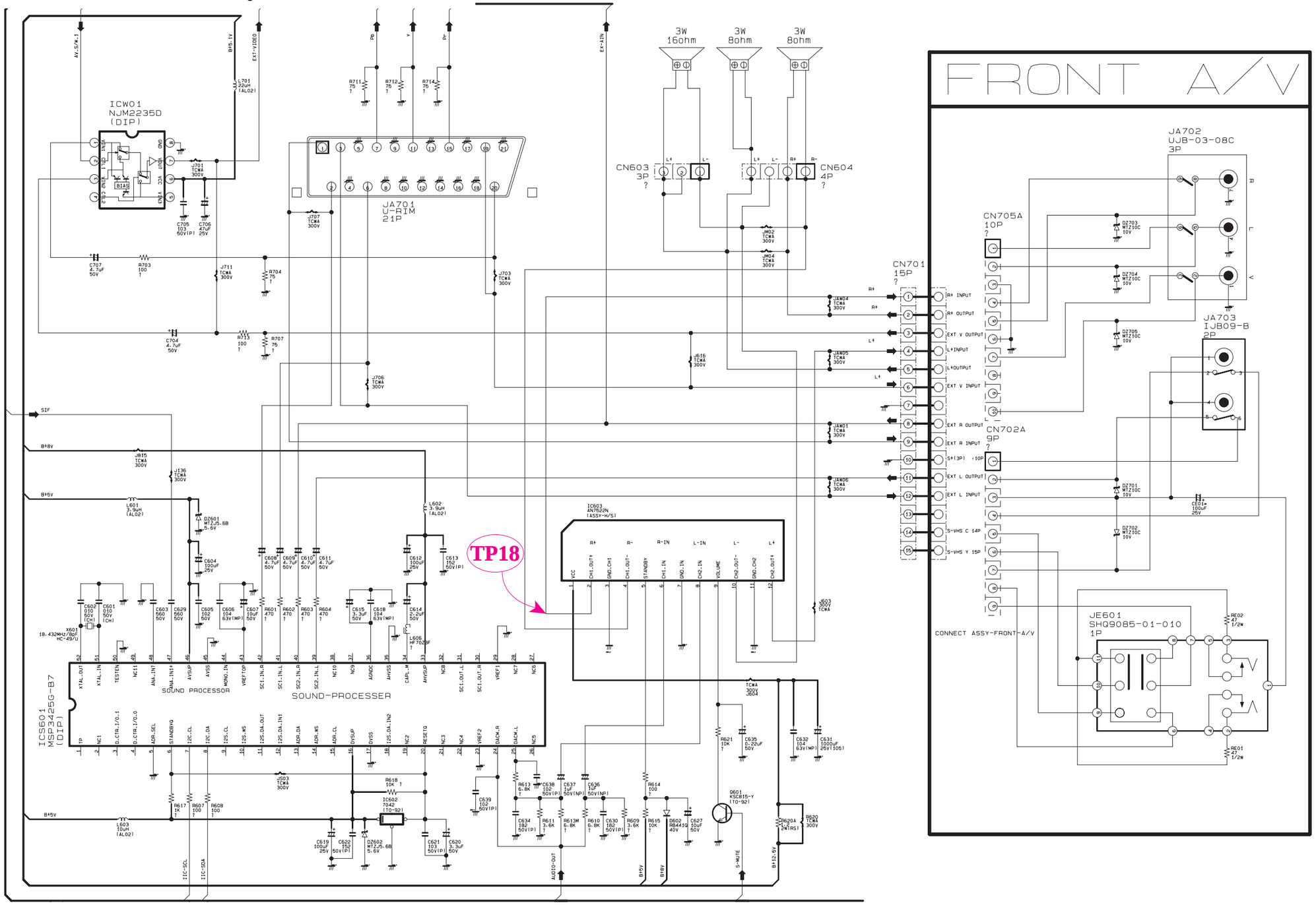

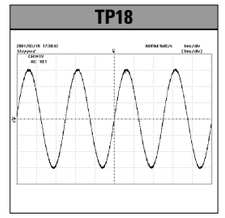

6-3 CRT

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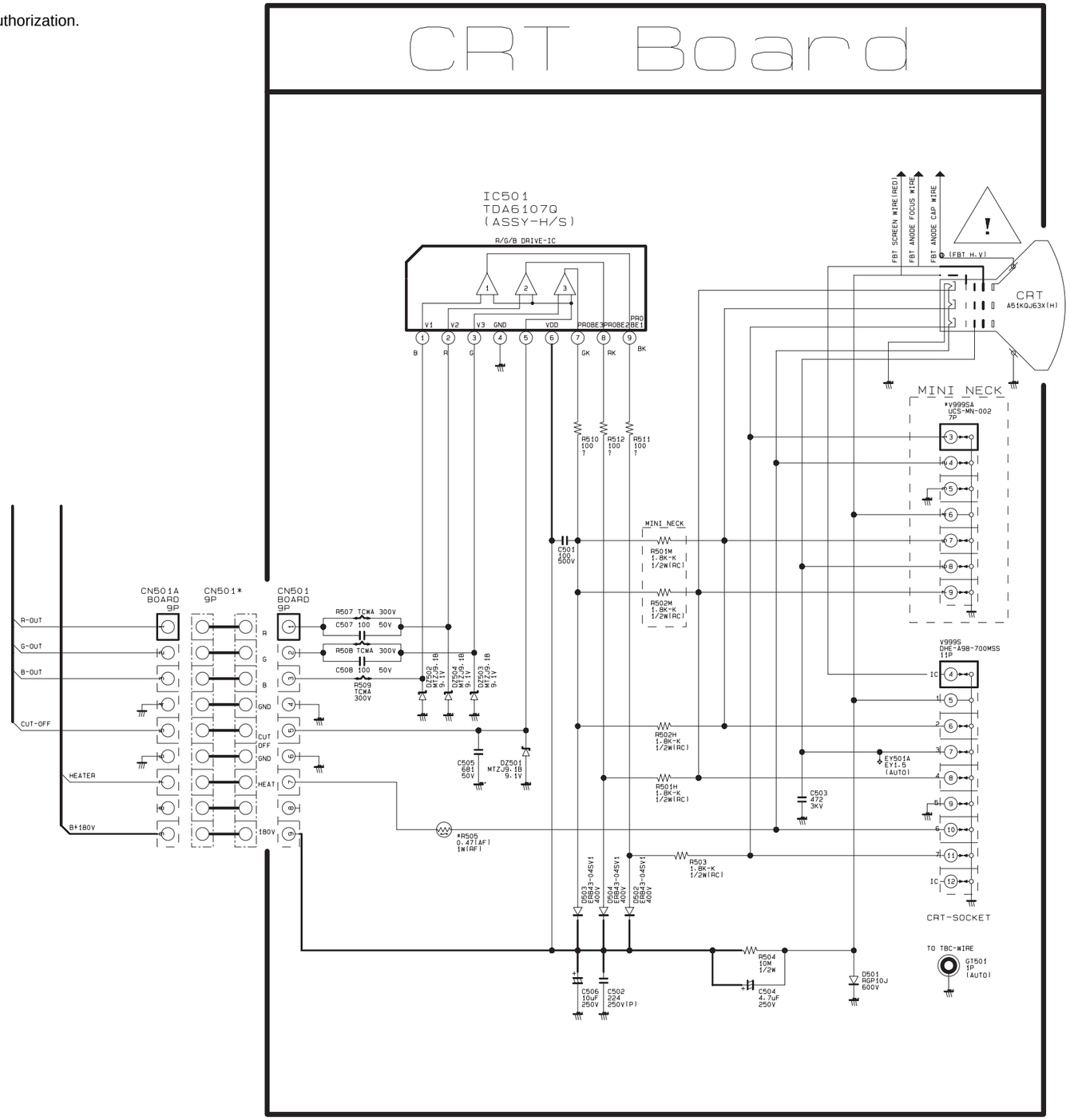

1. Specifications

Regions	North America	South Central America	MEXICO
Broadcasting System	NTSC		
Tuning System	Electronic Remote Control System		
Receiving Channels	VHF (CH 2 ~ 13)		
	UHF (CH 14 ~ 69)		
	CATV (CH 1, 14 ~ 125)		
ANTENNA INPUT RESISTANCE	VHF, UHF 75 unbalanced		
Intermediate Frequency	Video : 45.75 MHz		
	Sound : 41.25 MHz		
	Chrominance Subcarrier: 42.17 MHz		
Power Supply	AC 120V, 60Hz	AC 100~240V, 60Hz	AC 120V, 60Hz

MEMO

5. PCB Diagram

5-1 MAIN PCB